# blueIRIS: using audio to deliver information and learning content to any audience

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## 1. The organisations

Blackpool Council is constantly exploring new and better ways of reaching out to the local population. Blackpool has some 600 residents who are registered as blind, with another 1085 partially sighted who are registered as blind. The number of blind and partially sighted people increases significantly in the wider area, which is popular for retirement.

The Blackpool Fylde and Wyre Society for the Blind (BFWSB) offers a talking newspaper service, run successfully for nearly thirty years, a talking library book service, a residential home for 40 residents in purpose built accommodation, a resource centre and rehabilitation service, and a factory employing blind and disabled workers that produces beds and mattresses for sale to the general public.

Ultralab is a diverse and distributed team offering major expertise in e-learning through facilitated communities online, e-assessment, mobile learning, action research, work-based learning, new software tools, digital creativity and strategic consultancy. Ultralab works with partners and is sponsored by governments, charities and companies.

## 2. Overview

blueIRIS (Blind Learner User Environment - Interactive Radio Information Services) is using the power of broadband over the Internet to provide a service to the visually impaired and features news, information, learning content and leisure material created with visually impaired people in mind. The service is being delivered by the Blackpool, Fylde and Wyre Society for the Blind (BFWSB) and supported by the Lancashire Digital Development Agency (LDDA), the organisation charged with switching the County onto the benefits of broadband. blueIRIS was launched in September 2005. Several other organisations are also crucial partners in blueIRIS; Blackpool Council, Ultralab, Rural Surround and InterfaceITS have all provided their resources and expertise in this groundbreaking initiative. User of all ages and with varying degrees of visual impairment and computer operating skills, have become registered users of the project, and some are as far afield as Canada, India, Hawaii, testament to the appeal and the demand of the service. Since launch the service has not seen any sort of 'outage'. blueIRIS is not a replacement service for the traditional tapes, but it is an additional opportunity to explore future options.

## 3. Details

### Approach

As we live longer, the likelihood of each of us having a visual impairment through macular degeneration in our old age is very high. While visual impairments are generally more prevalent in later life, young people also have to cope with the problems it causes and the challenges it creates. The reality is, inclusive, accessible design benefits a majority of the population. For example, the guidelines for web pages allow the adjustment of the size of text on all pages in order to pass the accessibility tests internationally applied. There have been a lot of advances in usability design but it requires professionals and the public to increase awareness - not only to support actively the use and implementation of accessible design, but also to expect it as a part of normal practice.

Although younger blind people are rightly expecting to lead active and independent lives, it is clear that there is a whole generation who grew up before accessibility was required or expected. These people may have missed out on much that is now taken for granted, but they are capable of living fruitful lives and yearn to have information and involvement. It is that information that the "Talking News" service has built upon with its popular tape service; however commercial technology changes make it plain that the days of the cassette tape are limited. There is no formal link between information and learning, yet much of the content of "Talking News" is educational in the way it is delivered and received. While the circumstances of the onset of a visual disability vary greatly, many visually impaired people have had limited access to education, Unfortunately this is still the case but the experience of an earlier project undertaken in Blackpool (iBrowse) showed that audio content was a perfect vehicle for auditory learning.

blueIRIS raises many questions about technology being applied in the delivery of learning to the visual impaired, but most importantly it begs the question "Why not?" Dependency on others is unlikely to ever completely disappear but, with intelligent technological solutions, the independence of visually impaired people can be increased greatly. Some have had little opportunity to develop and contribute their skills and talents to their communities.

blueIRIS brings together a partnership of seemingly diverse parties and it creates a power vectoring of efforts towards a particular end. Starting with another project back in 2003, blueIRIS owes a lot to the NIACE TrEACL programme that provided an opportunity to test the needs of blind users. That project stimulated interest in a technological solution to 'what can we do to make a better service?' In blueIRIS we have practitioners, software experts, sound engineers, educational staff, ICT suppliers and voluntary groups all adding to the value of the emerging programme.

### Scale

Starting in June 2005 the blueIRIS team began delivery of an Internet-based service to a user base starting at 5. We had already had the great advantage of access to a wonderfully rich archive of recorded and unique content going back several years in the library of the Blackpool, Fylde and Wyre Society for the Blind.

The project chose to work with clients having access to an Apple Macintosh computer, although later the project opened up to all platforms. The content is totally cross platform, as is the solution; however as a small project we wanted to ensure we kept out additional support role to a minimum. Apple Macintosh computers offered us an easy to use, stable, virus free and simple to support solution from day 1. The availability of 'Voice Over'; a professional level screen reader, with the other standard accessibility functionality meant the project, did not have to invest in add-on accessibility solutions. This meant that we saved over £700 per installation, simply in software terms.

The project is also exploring the accessibility of its content through even more interesting media, including the idea of content mobility via podcasting to iPods, and we are also looking at 'set-top box' stream players that do not require a computer at all. Whatever the medium, the easier and better

suited to accessibility the better. A service such as blueIRIS can provide users with a compelling context and a friendly interface to independence. Anyone with friends or family who are uninspired or afraid to use computers and the Internet knows how independence is the key first step to encouraging them to learn new skills and take control of their own destinies. Indeed, this is no different for any learning.

In January 2006:
- Blackpool BFWSB membership: 900
- Active local members of blueIRIS listening population: 160
- Bespoke content created for blueIRIS: 500 hours to date
- Distant listeners from 10 countries
- Web site hits following official launch in October 2006: 3600

## Impact

Although it is early days, research is being undertaken to determine what users of the service actually want. The project is working with blind and visually impaired members to establish their interests and, by encouraging them to contribute ideas and even become the subject of interviews, it goes a long way towards ensuring that their focus meets their needs and interests. This very fact has had a huge impact on the partners, the users and the organisations themselves.

The project team was keen to listen to the visually impaired people's feedback. This has led to the development of a new client software tool which, instead of using a browser, offers a totally tailored user interface solution. blueIRIS is now growing to cater for a greater range of handicaps. It also has something that is rare in this day and age: a passionate volunteer base exists at the 'Talking News'.

As the skill and confidence of participants grows, training in ICT use is in demand, and a training room has now been set up. We have had problems finding trainers with the skills needed to train in the use of the standard PC screen readers without significant costs, so we are training our own. Teaching blind individuals to use podcasts will certainly feature in the project's use of increasingly sophisticated interactive technologies. By establishing high standards of presentation, the pioneers of the blind community can inspire others with their example and their authentic stories. Audio also lends itself well to dialogue, and community inspires participation, so an easy to use audio blog with key topics such as 'useful tips', 'help, please!' or 'what I'd like folks to know' may help to build members' confidence to begin to tell their stories.

As a solution for learning, there is quite a way to go, but we feel that it the project supports people enough to help to increase their knowledge, their experience and their skills and to offer them a way of appropriating the new technologies for themselves to reduce dependency on others.

## Costs and benefits

blueIRIS received £150,000 from the innovations fund of the Lancashire Digital Development Agency. On top of this partner contributions have added significantly to the total for running the service.

The BFWSB has some 200 volunteers who assist in the creation and duplication of 2500 tapes per week (130-140,000 tapes every year). In 2004 a local postal dispute prevented the circulation of tapes from the talking news service over Easter. Considerable effort in creating materials with limited shelf life left the Society with no option but to scrap them, as the failure to collect and therefore deliver was a huge disappointment. Audiotape reproduction, once the best solution, has become much more costly due to the failing popularity of that medium.

blueIRIS is a standards based project that is accessible on any modern computer system that can access the Internet over a broadband connection. Costs are kept as low as possible by catering for all types of computer, although blueIRIS cannot be responsible for its users' computers in general. Clients can opt (at this stage) to use Windows XP or MacOSX to access the full range of features, although we strongly advise Mac OSX. blueIRIS runs on Mac OSX servers and provides a semi-

automated workflow that makes it easy to create a smooth running service.  Running within modern browsers, it utilises the user's favorite (preferred) media player.

The development of a bespoke client application has been crucial, and overcomes some of the limitations of using browsers, and the issues created by browsers that fail to adhere to international standards. The unique user interface with simplified control means that with voice feedback, blueIRIS can be controlled in its entirety by the use of just the four arrow keys on any keyboard.

## 4. Lessons, caveats, and implications

We see this project as a beginning. Over the last year podcasting has taken the Internet by storm, and the key thing it does is provide a platform for minority interests and programming to be supported.  While blueIRIS supports podcasting, the idea of a service run for a community that can be totally interactive and accessible from anywhere grows daily. We have had to slow the growth of the service and look to explore how we can support its growing demands on bandwidth.

Our NIACE-funded TrEACL project, iBrowse was really successful, but short term funding prevented us from moving the project to a sustainability cycle. We would have been able to move much faster if podcasting (which we knew was what we wanted) had actually been available at the time. blueIRIS is also short-term funded, but we are now better placed to make the sustainability work.  We have no doubts that partnerships are key; without close partners, there is no way blueIRIS would have launched.  We had the idea waiting for suitable funding to come along.

## 5. Contact details

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